What is claimed is:

1. An apparatus comprising:

a first phase shifter to provide subcarrier dependent phase shifts to modulation symbols associated with an orthogonal frequency division multiplexing (OFDM) signal to generate first phase shifted modulation symbols, wherein said modulation symbols correspond to subcarriers of the OFDM signal; and

a first inverse discrete Fourier transform unit to convert said first phase shifted modulation symbols from a frequency domain representation to a time domain representation.

2. The apparatus of claim 1, further comprising:

a second phase shifter to provide subcarrier dependent phase shifts to said modulation symbols associated with said OFDM signal to generate second phase shifted modulation symbols, wherein said second phase shifter provides different subcarrier dependent phase shifts to said modulation symbols than said first phase shifter; and

a second inverse discrete Fourier transform unit to convert said second phase shifted modulation symbols from a frequency domain representation to a time domain representation;

wherein said first inverse discrete Fourier transform unit is associated with a first antenna path and said second inverse discrete Fourier transform unit is associated with a second antenna path.

3. The apparatus of claim 2, further comprising:

at least one other phase shifter to provide subcarrier dependent phase shifts to said modulation symbols associated with said OFDM signal to generate other phase shifted modulation symbols, wherein said at least one other phase shifter provides different subcarrier dependent phase shifts to said modulation symbols than said first and second phase shifters; and

at least one other inverse discrete Fourier transform unit to convert said other phase shifted modulation symbols from a frequency domain representation to a time domain representation.

4. The apparatus of claim 2, wherein:

said first and second inverse discrete Fourier transform units are fast Fourier transform (FFT) units.

5. The apparatus of claim 1, wherein:

said first phase shifter provides a phase shift to a first modulation symbol based on a difference between a frequency of a corresponding subcarrier and a center frequency of a channel in which said OFDM symbol is to be transmitted.

6. The apparatus of claim 1, wherein:

said first phase shifter provides subcarrier dependent phase shifts to said modulation symbols based on an approximate coherence bandwidth associated with the apparatus.

7. The apparatus of claim 1, wherein:

said modulation symbols associated with said OFDM signal includes at least a first modulation symbol and a second modulation symbol, said first modulation symbol being associated with a first subcarrier and said second modulation symbol being associated with a second subcarrier that is adjacent to said first subcarrier in frequency, wherein said phase shifter provides phase shifts to said first and second modulation symbols that differ by approximately 360/B degrees, where B represents an approximate coherence bandwidth.

8. A method comprising:

acquiring modulation symbols to be used to generate an orthogonal frequency division multiplexing (OFDM) signal, said modulation symbols including at least a first

symbol and a second symbol, wherein said modulation symbols correspond to subcarriers of the OFDM signal;

applying a first phase shift to said first symbol that is dependant upon the subcarrier associated with said first symbol to generate a first phase shifted symbol; and

applying a second phase shift to said second symbol that is dependent upon the subcarrier associated with said second symbol to generate a second phase shifted symbol.

9. The method of claim 8, further comprising:

applying an inverse discrete Fourier transform to a group of modulation symbols that includes said first phase shifted symbol and said second phase shifted symbol.

10. The method of claim 9, wherein:

said modulation symbols to be used to generate said OFDM signal include other symbols in addition to said first symbol and said second symbol, said method further comprising applying subcarrier dependent phase shifts to said other symbols to generate other phase shifted symbols, wherein said group of modulation symbols includes said other phase shifted symbols.

11. The method of claim 8, wherein:

applying a first phase shift to said first symbol includes applying a phase shift that is linearly related to a frequency of the subcarrier associated with said first symbol.

12. The method of claim 8, wherein:

applying a first phase shift to said first symbol includes applying a phase shift that is non-linearly related to a frequency of the subcarrier associated with said first symbol.

13. The method of claim 8, wherein:

applying a first phase shift to said first symbol includes applying a phase shift that is related to an approximate coherence bandwidth of a corresponding channel.

14. The method of claim 8, wherein:

said first and second phase shifted symbols are to be transmitted from a first antenna; and

said method further comprises:

applying a third phase shift to said first symbol that is dependant upon the subcarrier associated with said first symbol to generate a third phase shifted symbol, wherein said third phase shift is different from said first phase shift; and

applying a fourth phase shift to said second symbol that is dependent upon the subcarrier associated with said second symbol to generate a fourth phase shifted symbol, wherein said fourth phase shift is different from said second phase shift;

wherein said third and fourth phase shifted symbols are to be transmitted from a second antenna, said second antenna being different from said first antenna.

15. An apparatus comprising:

an interleaver to separate a serial input stream of modulation symbols into N spatial streams, where N is a positive integer greater than 1; and

a steering unit to receive said N spatial streams and to steer the associated modulation symbols into M antenna paths, where M is a positive integer greater than 1, wherein said steering unit provides subcarrier dependent phase shifts to modulation symbols associated with at least one of said N spatial streams.

16. The apparatus of claim 15, wherein:

said M antenna paths includes at least a first path and a second path; and

said apparatus further includes a first inverse discrete Fourier transform unit within said first path and a second inverse discrete Fourier transform unit within said second path.

17. The apparatus of claim 15, wherein:

said first and second inverse discrete Fourier transform units are fast Fourier transform units.

18. The apparatus of claim 15, wherein N equals M.

19. The apparatus of claim 15, wherein N does not equal M.

20. The apparatus of claim 15, wherein:

said apparatus is adapted for use within a multiple input multiple output (MIMO) based transmitting device.

21. The apparatus of claim 15, further comprising:

a mapper to map input data bits into a serial stream of modulation symbols based on a predetermined modulation scheme, said serial stream of modulation symbols for delivery to an input of said interleaver.

22. The apparatus of claim 21, further comprising:

a forward error correction (FEC) coder to encode user data based on a predetermined error code, said FEC coder to deliver encoded data bits to an input of said mapper.

23. The apparatus of claim 15, wherein:

said steering unit provides subcarrier dependent phase shifts to modulation symbols associated with at least two spatial streams, wherein different phase sequences are used for each of said at least two spatial streams.

24. The apparatus of claim 15, wherein:

said steering unit provides subcarrier dependent phase shifts to modulation symbols associated with N-1 of said N spatial streams, wherein different phase sequences are used for each of said N-1 spatial streams.

25. The apparatus of claim 15, wherein:

said steering unit provides subcarrier dependent phase shifts to modulation symbols associated with each of said N spatial streams, wherein different phase sequences are used for each of said N spatial streams.

26. A system comprising:

a first phase shifter to provide subcarrier dependent phase shifts to modulation symbols associated with an orthogonal frequency division multiplexing (OFDM) signal to generate first phase shifted modulation symbols, wherein said modulation symbols correspond to subcarriers of the OFDM signal;

a first inverse discrete Fourier transform unit to convert said first phase shifted modulation symbols from a frequency domain representation to a time domain representation; and

at least one dipole antenna element to transmit a radio frequency (RF) signal that includes said time domain representation of said phase shifted modulation symbols.

27. The system of claim 26, further comprising:

a guard interval addition unit to add a guard interval to said time domain representation of said phase shifted modulation symbols.

28. The system of claim 27, further comprising:

an RF transmitter located between said guard interval addition unit and said at least one dipole antenna element to generate said RF signal using said time domain representation of said phase shifted modulation symbols.

29. An article comprising a storage medium having instructions stored thereon that, when executed by a computing platform, operate to:

acquire modulation symbols to be used to generate an orthogonal frequency division multiplexing (OFDM) signal, said modulation symbols including at least a first symbol and a second symbol, wherein said modulation symbols correspond to subcarriers of the OFDM signal;

apply a first phase shift to said first symbol that is dependant upon the subcarrier associated with said first symbol to generate a first phase shifted symbol; and

apply a second phase shift to said second symbol that is dependent upon the subcarrier associated with said second symbol to generate a second phase shifted symbol.

30. The article of claim 29, wherein said instructions, when executed by the computing platform, further operate to:

apply an inverse discrete Fourier transform to a group of modulation symbols that includes said first phase shifted symbol and said second phase shifted symbol.

31. The article of claim 29, wherein:

to apply a first phase shift to said first symbol includes to apply a phase shift that is linearly related to a frequency of the subcarrier associated with said first symbol.

32. The article of claim 29, wherein:

to apply a first phase shift to said first symbol includes to apply a phase shift that is non-linearly related to a frequency of the subcarrier associated with said first symbol.

33. The article of claim 29, wherein:

to apply a first phase shift to said first symbol includes to apply a phase shift that is related to an approximate coherence bandwidth of a corresponding channel.